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ABSTRACT

Cognitive processes, particularly in regard to negative content schemata, seem to play an instrumental role in the development and maintenance of depression. In order to better understand the nature of negative schemata in depressed individuals, both depressed and nondepressed subjects participated in two studies in which they were required to name the colors of tachistiscopically-presented depressed-, neutral-, and manic-content words. In the first study, subjects were prescreened using the Beck Depression Scale to determine presence of depression. Only depressed (4 and below on the scale) and nondepressed (9 and above on the scale) subjects were included in the study. Subjects were presentd 50 words and were told to name the colors in which each word was printed. Subsequently, the time interval (latency) between stimulus presentation and response was measured. In the second study, all subjects were nondepressed, but before being presented with the 50 words as in study one, they were exposed to either a positive, negative, or neutral mood induction. After the experiment the subjects completed the Multiple Affect Adjective Checklist to assess the effects of the induction procedure. An analysis of the results showed that depressed subjects exhibited significantly longer color-naming response latencies for negative than for positive or neutral content words. Study two results indicated that the findings in study one were most likely not due to the effects of mood differences between the depressed and nondepressed subjects. (BL)

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CATEGORY ACCESSIBILITY AND DEPRESSION

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

A RADIDLY GROWING BODY OF LITERATURE IS EMERGING EXAMINING THE ROLE OF COGNITIVE PROCESSES IN THE DEVELOPMENT AND MAINTENANCE OF DEPRESSION. THESE STUDIES ARE BASED LARGELY ON THE COGNITIVE MODEL OF DEPRESSION FORMULATED BY BECK (1967, 1976) IN WHICH DEPRESSED PERSONS ARE CHARACTERIZED BY THE PRESENCE OF A 'COGNITIVE TRIAD'. BECK'S FORMULATION ALSO ASCRIBES CONSIDERABLE IMPORTANCE TO THE ROLE OF COGNITIVE SCHEMATA. SCHEMATA ARE GENERALLY VIEWED AS COGNITIVE STRUCTURES THAT AFFECT THE ENCODING, STORAGE AND RETRIEVAL OF INFORMATION (TAYLOR & CROCKER, 1981). ACCORDING TO BECK, THE SCHEMATA EMPLOYED BY DEPRESSED INDIVIDUALS ARE NEGATIVE IN NATURE, LEADING THE DEPRESSIVE BOTH TO SELECTIVELY FILTER OUT POSITIVE INFORMATION AND TO PERCEIVE NEGATIVE OR NEUTRAL INFORMATION AS BEING MORE NEGATIVE THAN IS ACTUALLY THE CASE; CONSEQUENTLY, THE DEPRESSED INDIVIDUAL IS OFTEN INACCURATE IN HIS PERCPETIONS OF THE ENVIRONMENT.

CONSISTENT WITH THIS FORMULATION AND SUPPORTING RESEARCH IS THE SUGGESTION THAT DEPRESSED INDIVIDUALS MAY DIFFER FROM NONDEPRESSED INDIVIDUALS IN THE RELATIVE ACCESSIBILITY OF NEGATIVE CONTENT SCHEMAS (MCCANN & HIGGINS, IN PRESS). THE PRESENT PAPER DESCRIBES TWO STUDIES CONDUCTED IN ORDER TO GAIN A BETTER UNDERSTANDING OF THE NATURE OF NEGATIVE SCHEMATA IN DEPRESSED INDIVIDUALS.

IN EXPERIMENT I, DEPRESSED AND NONDEPRESSED SUBJECTS PARTICIPATED IN A VARIATION OF THE STROOP COLOR WORD TASK, IN WHICH THEY WERE REQUIRED TO NAME THE COLORS OF TACHISTISCOPICALLY-PRESENTED DEPRESSED-, NEUTRAL-, AND MANIC-CONTENT WORDS. DEPRESSED SUBJECTS, BECAUSE OF THE PREDICTED ACCESSIBILITY DIFFERENCES AND CONCOMITANT INTERFERENCE EFFECTS OF DEPRESSED-CONTENT WORDS, WERE EXPECTED TO DEMONSTRATE LONGER RESPONSE LATENCIES TO THESE WORDS THAN TO NON-DEPRESSED WORDS. NON-DEPRESSED SUBJECTS WERE NOT EXPECTED TO EVIDENCE ANY SUCH PATTERN OF RESULTS.

STUDY 2 WAS CONDUCTED IN AN ATTEMPT TO EXAMINE THE ROLE OF TEMPORARY MOOD DIFFERENCES IN PRODUCING THE EFFECTS OF STUDY I. THE TASK USED IN STUDY I WAS ADMINISTERED TO INITIALLY NON-DEPRESSED SUBJECTS WHO HAD BEEN EXPOSED TO EITHER A POSITIVE, NEGATIVE OR NEUTRAL MOOD INDUCTION.

METHOD

1) THE DEPRESSED STATUS OF SUBJECTS IN STUDIES I AND 2 WAS ASSESSED BY MEANS OF THE BECK DEPRESSION INVENTORY (BECK, ET AL, 1961). IN STUDY I, ONLY THOSE SUBJECTS WHO OBTAINED SCORES OF 4 OR BELOW AND 9 AND ABOVE WERE INCLUDED. IN STUDY 2, SINCE IT WAS NECESSARY THAT ALL SUBJECTS SHOULD BE INITIALLY NON-DEPRESSED, ONLY SUBJECTS WITH BDI SCORES OF 9 OR ABOVE WERE INCLUDED. SUBJECTS IN STUDY 2 WERE THEN EXPOSED TO EITHER THE ELATION, NEUTRAL, OR DEPRESSIVE MOOD INDUCTION PROCEDURE (VELTEN, 1968).

2) SUBJECTS IN BOTH STUDIES WERE THEN EXPOSED TO 50 POSITIVE, NEUTRAL AND NEGATIVE CONTENT WORDS VIA A RALPH GERBRANDS CO. TWO FIELD TACHISTOSCOPE. SUBJECTS WERE TOLD THAT THEIR TASK WAS TO NAME THE COLORS IN WHICH EACH WORD WAS PRINTED.

3) AN ELECTRO-VOICE INC. (MODEL 621) MICROPHONE WAS POSITIONED 7 CM. FROM THE SUBJECT'S MOUTH. THE MICROPHONE WAS CONNECTED TO A LAFAYETTE INSTRUMENTS CO. (MODEL 18010) VOICE ACTIVATED RELAY, WHICH STOPPED A HUNTER-KLOCKOUNTER (MODEL 120) TIMER AT THE INITIATION OF THE SUBJECT'S VOCAL RESPONSE.

4) EACH TRIAL CONSISTED OF ONE-SECOND PRESENTATION OF A FIXATION CROSS FOLLOWED BY A 250 MILLISECOND BLANK INTERVAL FOLLOWED BY THE PRESENTATION OF A STIMULUS WORD. ONSET OF THE STIMULUS STARTED THE TIMER WHICH WAS STOPPED BY THE SUBJECTS VOCAL RESPONSE. THE TIME INTERVAL BETWEEN STIMULUS PRESENTATION (APPROXIMATELY 5 SECONDS) WAS USED BY THE EXPERIMENTER TO RECORD THE RESPONSE LATENCY.

RESULTS: STUDY I

RESPONSE LATENCIES FOR EACH SUBJECT WERE AVERAGED ACROSS THE 50 WORDS WITHIN EACH OF THE THREE CONTENT CATEGORIES. A TWO- WAY REPEATED ANALYSIS OF VARIANCE WAS PERFORMED ON THE DATA WITH SUBJECT GROUP AND WORD CONTENT AS FACTORS. AS EXPECTED, THE ANALYSIS REVEALED A SIGNIFICANT EFFECT FOR THE GROUP X WORD TYPE INTERACTION, F (2,54)=.3.27, $p<.05$. NEITHER OF THE TWO MAIN EFFECTS REACHED AN ACCEPTABLE LEVEL OF SIGNIFICANCE. NEWMAN-KEULS TESTS REVEALED THAT WHEREAS THE NONDEPRESSED SUBJECTS DID NOT DIFFER IN THEIR RESPONSE LATENCIES TO THE THREE TYPES OF WORDS, THE DEPRESSED

SUBJECTS TOOK SIGNIFICANTLY LONGER TO NAME THE COLORS OF THE DEPRESSED CONTENT WORDS THAN THEY DID FOR THE MANIC OR NEUTRAL-CONTENT WORDS (SEE TABLE 1).

TABLE 1

SUBJECT GROUP	WORD TYPE: DEPRESSED CONTENT	NEUTRAL CONTENT	MANIC CONTENT
NON-DEPRESSED	694.67	699.67	692.47
DEPRESSED	762.40	739.00	746.80

NOTE: MEANS ARE IN MILLISECONDS.

RESULTS: STUDY 2

MOOD

IN ORDER TO ASSESS THE EFFECTS OF THE INDUCTION PROCEDURE, SUBJECTS WERE ASKED TO COMPLETE THE MULTIPLE AFFECT ADJECTIVE CHECK LIST (ZUCKERMAN & LUBIN, 1965). ANALYSIS OF SUBJECTS' RESPONSES INDICATED THAT DEPRESSIVE INDUCTION SUBJECTS REPORTED FEELING SIGNIFICANTLY MORE DEPRESSED ($p<.01$) AND MORE HOSTILE ($p<.05$) FOLLOWING THE INDUCTION PROCEDURE THAN DID SUBJECTS IN EITHER THE NEUTRAL OR ELATION INDUCTION GROUPS, WHO DID NOT DIFFER SIGNIFICANTLY FROM EACH OTHER.

RESPONSE LATENCY

RESPONSE LATENCIES FOR EACH SUBJECT WERE AGAIN AVERAGED ACROSS THE 50 WORDS WITHIN EACH OF THE THREE WORD CATEGORIES. A TWO-WAY REPEATED ANALYSIS OF VARIANCE FAILED TO REVEAL ANY SIGNIFICANT EFFECTS (SEE TABLE 2).

TABLE 2

INDUCTION GROUP	WORD TYPE: DEPRESSED CONTENT	NEUTRAL CONTENT	MANIC CONTENT
DEPRESSIVE	778.50	770.10	765.50
NEUTRAL	762.90	750.80	747.20
ELATION	744.20	736.90	746.60

NOTE: MEANS ARE IN MILLISECONDS

DISCUSSION

THE RESEARCH REPORTED IN THE PRESENT PAPER WAS DESIGNED TO EXAMINE THE RELATIVE ACCESSIBILITY OF NEGATIVE AND POSITIVE TRAIT CONSTRUCTS IN DEPRESSED AND NON-DEPRESSED INDIVIDUALS. AS PREDICTED, THE RESULTS OF STUDY I DEMONSTRATED THAT DEPRESSED SUBJECTS EXHIBITED SIGNIFICANTLY LONGER COLOR-NAMING RESPONSE LATENCIES TO NEGATIVE THAN TO POSITIVE OR NEUTRAL CONTENT WORDS. NONDEPRESSED SUBJECTS EXHIBITED NO SUCH PATTERN OF RESULTS. THESE RESULTS ARE TAKEN AS SUPPORT FOR THE HYPOTHESIZED ACCESSIBILITY DIFFERENCES BETWEEN DEPRESSED AND NONDEPRESSED INDIVIDUALS (HIGGINS & KING, 1981; MCCANN & HIGGINS, IN PRESS). THE RESULTS OF STUDY 2 SUGGEST FURTHER THAT THE EFFECTS OBSERVED IN STUDY I WERE MOST LIKELY NOT DUE TO THE EFFECTS OF MOOD DIFFERENCES BETWEEN THE DEPRESSED AND NONDEPRESSED SUBJECTS (FURTHER WORK ON THIS POINT, OF COURSE, NEEDS TO BE DONE).

THE PRESENT RESULTS HAVE IMPLICATIONS FOR APPROACHES TO THERAPY WITH DEPRESSED PERSONS. A NUMBER OF THEORISTS HAVE CONCEPTUALIZED DEPRESSION AS RESULTING FROM A LOW RATE OF POSITIVE REINFORCEMENT (cf. COSTELLO, 1972), AND LEWINSOHN (1974)HAS UTILIZED THIS FORMULATION IN SUGGESTING THAT THERAPY WITH DEPRESSED PERSONS FOCUS ON INCREASING THE AMOUNT OF POSITIVE REINFORCEMENT RECEIVED. THE PRESENT RESULTS SUGGEST THAT THIS

APPROACH MAY BE LESS EFFECTIVE THAN POSTULATED, SINCE DEPRESSED INDIVIDUALS MAY NOT BE 'PRIMED' TO PERCEIVE POSITIVE REINFORCEMENT IN THEIR ENVIRONMENT.

THE PRESENT FINDINGS ALSO SUGGEST THAT THE EFFICACY OF COGNITIVE THERAPIES WHICH ARE BASED UPON RATIONAL THOUGHT TESTING PROCEDURES (e.g., BECK, ET AL, 1979; ELLIS, 1973) MAY ALSO BE LESS EFFECTIVE THAN NEED BE. THE PRESENT RESULTS SUGGEST THAT THEIR EFFECTIVENESS MIGHT BE INCREASED BY INCLUDING COMPLEMENTARY TECHNIQUES DESIGNED TO ALTER THE RELATIVE ACCESSIBILITY FOR DEPRESSED PERSONS OF POSITIVE AND NEGATIVE CONSTRUCTS.

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